UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,109	07/15/2003	Alan Ray Albrecht	200310882-1	8617

22879   7590   12/26/2007

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EXAMINER
SINKANTARAKORN, PAWARIS

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
12/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after t he mailing date of this com munication, even if timely filed, may re duce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 October 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16 and 19</u> is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16 and 19</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

10/5/2007 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1, 11, 12, 16, and 19 have been

considered but are moot in view of the new ground(s) of rejection.

3.   Claims 1-16 and 19 are currently pending in the application. Claims 17 and 18

have been canceled.

Claim Rejections - 35 USC § 103

4.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

5.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over De Silva et al. (newly cited US 2007/0110078) in view of Hurren et al. (newly cited

US 6,788,681).

Regarding claims 1, 11, and 19, Shankar et al. disclose a method of processing

a packet sent to a provider network, the method comprising:

receiving the packet via a user port of a first edge switch of the network, wherein

the user port is an input port of the first edge switch (see paragraph 62, a VLAN tagged

frame is received at customer boundary port of switch 226);

determining forwarding and routing by the edge switch based on a user VLAN

identifier (VID) of a user VLAN tag for the packet (see paragraph 62, the frame mapping

logic retrieves the frame's destination from VID field);

creating a tunnel between the user port of the first edge switch and a user port of

a second edge switch (see paragraph 78, the frame is driven onto link and received at

switch 232, which creates a communication channel between switch 226 and switch

232) using double VLAN tagging by inserting a provider VLAN tag, including a provider

VID, into the packet at a provider port of the edge switch prior to transmission of the

packet via the provider port, wherein the provider port is an output port of the edge

switch (see Figure 7 and paragraphs 66 and 70, provider VLAN and provider COS

value are appended to the frame); and

providing a service level in relation to traffic flowing through the tunnel (see

Figure 7 reference numerals 718 and 728 and paragraphs 16-17).

De Silva et al. do not disclose a method for providing a security action of

dropping the packet or forwarding the packet to the management software based on the

service level. However, Hurren et al. from the same or similar fields of endeavor

disclose a method for providing a security action of discarding frames based on the

information in the priority field (see column 14 lines 55-62).

Thus, it would have been obvious to the person of ordinary skill in the art at the

time of the invention to implement the method for providing a security action of dropping

the packet or forwarding the packet to the management software based on the service

level as taught by Hurren et al. into the method of double VLAN tagging of De Silva et al.

The motivation for implementing the method for providing a security action of dropping the packet or forwarding the packet to the management software based on the service level is that it increases the efficiency and security of the double VLAN tagging method.

Regarding claim 2, De Silva et al. disclose a method, further comprising forwarding and routing the packet by a middle switch based on the provider VLAN tag (see paragraph 78, forwarding the frame to the switch 232, which is an intermediate switch);

regarding claim 3, the packet received includes a user VLAN tag, and the user VID is derived from the user VLAN tag (see paragraph 62);

regarding claim 4, the packet received does not include a user VLAN tag, and the user VID is assigned to be a port VID associated with the user port (see paragraph 62);

regarding claim 5, the provider VID comprises a VID of a destination VLAN (see paragraph 65);

regarding claim 6, the provider VID comprises a port VID associated with the input port (see paragraph 62);

regarding claim 7, the edge switch determines a class of service (COS) for the packet based on the user VLAN tag (see paragraph 62);

regarding claim 8, the edge switch determines a security action for the packet

based on the user VLAN tag (see paragraph 62);

regarding claim 9, further comprising:

receiving the packet by a provider port of a second edge switch of the network

(see paragraphs 78 and 85); and

stripping the provider VLAN tag from the packet (see paragraph 85);

regarding claim 10, the packet is routed to more than one middle switch before

arriving at the second edge switch (see paragraphs 36 and 37).

Regarding claim 12, De Silva et al. disclose a system for processing packets

sent to a provider network, the system comprising:

a first switch configured to receive a packet via a user port (see paragraph 62, a

VLAN tagged frame is received at customer boundary port of switch 226), to determine

routing and forwarding for the packet based on a user VID of a user VLAN tag (see

paragraph 62, the frame mapping logic retrieves the frame's destination from VID field),

and to insert a provider VLAN tag into the packet at a provider port prior to transmission

of the packet such that the transmitted packet has at least two VLAN tags therein (see

Figure 7 and paragraphs 66 and 70, provider VLAN and provider COS value are

appended to the frame); and

a second switch configured to receive the packet having at least two VLAN tags

via a provider port (see paragraphs 78 and 85, the switch 232 receives the forwarded

frame from switch 226), to strip the provider VLAN tag from the packet at the provider

port (see paragraph 85, the intermediate switch could derive a different provider VLAN,

which requires getting rid of the old provider VLAN), and to determine routing and

forwarding for the packet based on the user VID for the user VLAN tag (see paragraph

84, a customer VLAN and a customer CoS value is derived and appended to the frame

prior to forwarding the frame into a customer network);

wherein a tunnel is created between the user port of the first switch and a user

port of the second switch (see paragraph 78, the frame is driven onto link and received

at switch 232, which creates a communication channel between switch 226 and switch

232), and

wherein a service level is provided in relation to traffic flowing through the tunnel

(see Figure 7 reference numerals 718 and 728 and paragraphs 16-17).

De Silva et al. do not disclose a system for providing a security action of dropping

the packet or forwarding the packet to the management software based on the service

level. However, Hurren et al. from the same or similar fields of endeavor disclose a

system for providing a security action of discarding frames based on the information in

the priority field (see column 14 lines 55-62).

Thus, it would have been obvious to the person of ordinary skill in the art at the

time of the invention to implement the system for providing a security action of dropping

the packet or forwarding the packet to the management software based on the service

level as taught by Hurren et al. into the system of double VLAN tagging of De Silva et al.

The motivation for implementing the system for providing a security action of

dropping the packet or forwarding the packet to the management software based on the

service level is that it increases the efficiency and security of the double VLAN tagging

method.

Regarding **claim 13**, De Silva et al. disclose a system, further comprising at

least one middle switch communicatively coupled between the first and second switches

(see Figure 2 reference numerals 226, 228, 230, and 232, and paragraphs 36 and 37);

regarding claim 14, further comprising utilization of a class of service (COS) for

routing and forwarding of the packet that is based on the user VID (see paragraphs 16-

17 and 70);

regarding claim 15, further comprising determining a security action for the

packet based on the user tag (see paragraphs 16-17 and 70).

Regarding **claim 16**, De Silva et al. disclose a method of routing and forwarding

a packet (see paragraph 62, the frame mapping logic retrieves the frame's destination

from VID field) using double Q tagging by inserting a provider VLAN tag in addition to a

user VLAN tag (see Figure 7 and paragraphs 66 and 70, provider VLAN and provider

COS value are appended to the frame) to create a tunnel between a user port of a first

switch and a user port of a second switch (see paragraph 78, the frame is driven onto

link and received at switch 232, which creates a communication channel between

switch 226 and switch 232), wherein a user-expected service level is provided in

relation to traffic flowing through the tunnel (see Figure 7 reference numerals 718 and

728 and paragraphs 16-17).

De Silva et al. do not disclose a method for providing a security action of

dropping the packet or forwarding the packet to the management software based on the

service level. However, Hurren et al. from the same or similar fields of endeavor

disclose a method for providing a security action of discarding frames based on the

information in the priority field (see column 14 lines 55-62).

Thus, it would have been obvious to the person of ordinary skill in the art at the

time of the invention to implement the method for providing a security action of dropping

the packet or forwarding the packet to the management software based on the service

level as taught by Hurren et al. into the method of double VLAN tagging of De Silva et

al.

The motivation for implementing the method for providing a security action of

dropping the packet or forwarding the packet to the management software based on the

service level is that it increases the efficiency and security of the double VLAN tagging

method.

Conclusion

8.   Examiner's Note: Examiner has cited particular columns and line numbers in the

references applied to the claims above for the convenience of the applicant. Although

the specified citations are representative of the teachings of the art and are applied to

specific limitations within the individual claim, other passages and figures may apply as

well. It is respectfully requested from the applicant in preparing responses, to fully

consider the references in entirety as potentially teaching all or part of the claimed

invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pao Sinkantarakorn whose telephone number is 571-270-1424. The examiner can normally be reached on Monday-Thursday 9:00am-3:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PS

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SUPERVISORY PATENT EXAMINER